Proposed City of San Diego Watershed Activities

for

San Dieguito River Watershed

The San Dieguito River Watershed Urban Runoff Management Plan is currently being prepared in collaboration with other jurisdictions, and drafts are not yet available. The following proposed City of San Diego watershed activities will be integrated into the final version of the San Dieguito River Watershed Urban Runoff Management Plan and represent the City of San Diego's commitment to and anticipated efforts in the San Dieguito River Watershed over the next five years. The final version of the plan will be submitted to the San Diego Regional Water Quality Control Board pursuant to requirements in the 2007 Municipal Permit (Order No. R9-2007-0001).

San Dieguito River Watershed Management Area
Five-Year Plan of Action Matrix

Jurisdiction	905.1	905.2	905.3	905.4	905.5	Activity	Bacteria*	Dissolved Minerals	Gross Pollutants	Heavy Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Monitoring	Source Investigation	Load Reduction	Education	Year 1 2007-2008	Year 2 2008-2009	Year 3 2009-2010	Year 4 2010-2011	Year 5 2011-2012
SD	X	X	X			Alpha Project Trash Cleanups	X									X			X		I A				
SD	X	X	X			ILACSD Trash Cleanup Sponsorship	X									X			X		I A	I A	I A	I A	I A
SD	X	X	X			SDCK Trash Cleanup Sponsorship	X									X			X		I A	I A	I A	I A	I A
SD	X	X	X			Targeted Animal-Related Facility Inspections	X				X							X	X	X	P	P I	I A	I A	I A
SD	X	X	X			Targeted Landscaping-Related Facility Inspections	X				X							X	X	X	P	P I A			
SD	X	X	X			Targeted Municipal Facility Inspections	X			X	X							X	X	X	P I A	I A			
SD	X	X	X			Targeted Restaurant Facility Inspections	X											X	X		P	P	P	P I A	A
SD	X	X	X			Municipal Rain Barrel Installation	X	X			X	X		X	X				X		P I A				
SD	X	X	X			Trash Segregation BMP Installation	X									X			X		P	P	I A	A	
SD	X	X	X			Irrigation Controller & Xeriscaping Incentive Program	X	X	X		X	X		X	X				X				P	P	P I A
SD	X	X	X			Sediment & Peak Flow Controls #1	X		X	X	X		X	X	X				X		P	P M	I A	A	
SD	X	X	X			Sediment & Peak Flow Controls #2	X		X	X	X		X	X	X				X			P	P M	I A	A
SD	X	X	X			Karma/Karma Second Chance Public Service Announcements	X		X							X				X	I	I A	I A	I A	I A
SD	X	X	X			Mobile Advertising (General; Bacteria)	X		X	X	X			X	X	X				X	I A	I A	I A	I A	I A
SD	X	X	X			Restaurant Outreach RE: New Codes & Increased Inspections	X				X					X			X	X		P	P I	I A	I A
SD	X	X	X			Residential and Business CBSM Pilots	X	X	X						X	X			X	X		P	P I	I A	I A

* High Priority Pollutant

Planning (P)
Monitoring (M)
Implementation (I)
Assessment (A)

TITLE: **Alpha Project for the Homeless, Inc. Trash Cleanups**
ID NUMBER: <mark>XXX</mark>

ACTIVITY DESCRIPTION
The City's Storm Water Pollution Prevention Division has partnered with Alpha Project for the Homeless, Inc., through a Memorandum of Understanding to conduct trash and debris cleanups and potentially homeless encampment removals throughout the City's jurisdiction in various watersheds in FY 2007 and FY 2008.

TMDL APPLICABILITY
- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION
The City will coordinate with Alpha Project to ensure that sites within the San Dieguito River WMA are included in the list of sites to target for cleanups in FY 2008.

PARTICIPATING WATERSHED COPERMITTEE(S)
- City of San Diego

OTHER PARTICIPATING ENTITIES
- Alpha Project for the Homeless, Inc.

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED
- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY
The Collective Watershed Strategy for San Dieguito River WMA identifies bacteria as a high priority water quality problem throughout the WMA and recommends implementing load reduction/source abatement activities to address it. Cleanups by Alpha Project will result in load reduction of trash and debris directly and of bacteria indirectly.

EXPECTED BENEFITS
Although the cleanups conducted by Alpha Project focus on debris removal, it also addresses bacteria indirectly by removing a bacterial source: trash. Literature published by the United States Environmental Protection Agency on its website[1] states that debris may be contaminated by pathogens that have adverse effects on humans. By reducing the amount of trash and debris in the San Dieguito River WMA through cleanup events, bacteria loading is reduced.

EFFECTIVENESS MEASUREMENTS

Management Questions:	• What is the load reduction associated with sponsorship? • What is the efficiency of trash cleanup? ($/person or $/ton collected)
Targeted Measurable Outcome(s)	• Achieve load reduction of trash (any amount) due to trash cleanup sponsorship

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[1] http://www.epa.gov/owow/oceans/debris/

Assessment Method(s)	• Tabulation (e.g., number of participants) • Quantification (e.g., pounds of trash collected)
Assessment Measures, Assessment Outcome Levels & Data:	• Money spent (USD) (Outcome Level 1 and 2) • Tons of trash (Outcome Level 4) • Number of participants (Outcome Level 1) • Compliance (yes/no) (Outcome Level 1)

TITLE: **I Love A Clean San Diego Trash Cleanup Sponsorship**
ID NUMBER: XXX

ACTIVITY DESCRIPTION
Each spring, I Love A Clean San Diego (ILACSD) conducts its Creek to Bay Cleanup event to target various inland and coastal sites in San Diego County in need of trash and debris removal. ILACSD recruits and organizes site captains and groups of volunteers for each site. A media center is also designated, which promotes environmental stewardship, including the importance of keeping litter and debris from spoiling the region's watersheds. The whole event is marketed throughout San Diego County through a variety of media, including television, radio public service announcements, newspapers, newsletters, electronic mail, bulletin boards, community outreach activities, calendar listings, and word of mouth.

TMDL APPLICABILITY
- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION
Creek to Bay Cleanup has historically been held in April of each year. Prior to that month, the City will coordinate with ILACSD staff to ensure that sites within the San Dieguito River WMA are included in the list for cleanups and that proper sponsorship arrangements are made.

PARTICIPATING WATERSHED COPERMITTEE(S)
- City of San Diego

OTHER PARTICIPATING ENTITIES
- ILACSD
- Volunteers from general public

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED
- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY
The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria as a high priority water quality problem throughout the WMA and recommends implementing load reduction/source abatement activities to address it. Sponsorship of Creek to Bay will result in load reduction of trash and debris directly and of bacteria indirectly.

EXPECTED BENEFITS
Although Creek to Bay Cleanup is focused on debris removal, it also addresses bacteria indirectly by removing a bacterial source: trash. Literature published by the United States Environmental Protection Agency on its website[1] states that debris may be contaminated by pathogens that have adverse effects on humans. By reducing the amount of trash and debris in the San Dieguito RiverWMA through cleanup events, bacteria loading is reduced.

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[1] http://www.epa.gov/owow/oceans/debris/

EFFECTIVENESS MEASUREMENTS

Management Questions:	• What is the load reduction associated with sponsorship? • What is the efficiency of trash cleanup? ($/person or $/ton collected)
Targeted Measurable Outcome(s)	• Achieve load reduction of trash (any amount) due to trash cleanup sponsorship
Assessment Method(s)	• Tabulation (e.g., number of participants) • Quantification (e.g., pounds of trash collected)
Assessment Measures, Assessment Outcome Levels & Data:	• Money spent (USD) (Outcome Level 1 and 2) • Tons of trash (Outcome Level 4) • Number of participants (Outcome Level 1) • Compliance (yes/no) (Outcome Level 1)

TITLE: San Diego Coastkeeper Trash Cleanup Sponsorship
ID NUMBER: XXX

ACTIVITY DESCRIPTION

Each fall, San Diego Coastkeeper conducts the Coastal Cleanup Day event to target various inland and coastal sites in San Diego County in need of trash and debris removal. Coastkeeper recruits and organizes site captains and groups of volunteers for each site. A media center is also designated, which promotes environmental stewardship, including the importance of keeping litter and debris from spoiling the region's watersheds. The whole event is marketed throughout San Diego County through a variety of media, including television, radio public service announcements, newspapers, newsletters, electronic mail, bulletin boards, community outreach activities, calendar listings, and word of mouth.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Coastal Cleanup Day has historically been held in September of each year. Prior to that month, the City will coordinate with Coastkeeper staff to ensure that sites within the San Dieguito River WMA are included in the list for cleanups and that proper sponsorship arrangements are made.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper
- I Love A Clean San Diego
- Volunteers from general public

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria as a high priority water quality problem throughout the WMA and recommends implementing load reduction/source abatement activities to address it. Sponsorship of Coastal Cleanup Day will result in load reduction of trash and debris directly and of bacteria indirectly.

EXPECTED BENEFITS

Although Coastal Cleanup Day is focused on debris removal, it also addresses bacteria indirectly by removing a bacterial source: trash. Literature published by the United States Environmental Protection Agency on its website[1] states that debris may be contaminated by pathogens that have adverse effects on humans. By reducing the amount of trash and debris in the San Dieguito River WMA through cleanup events, bacteria loading is reduced.

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[1] http://www.epa.gov/owow/oceans/debris/

EFFECTIVENESS MEASUREMENTS

Management Questions:	• What is the load reduction associated with sponsorship? • What is the efficiency of trash cleanup? ($/person or $/ton collected)
Targeted Measurable Outcome(s)	• Achieve load reduction of trash (any amount) due to trash cleanup sponsorship
Assessment Method(s)	• Tabulation (e.g., number of participants) • Quantification (e.g., pounds of trash collected)
Assessment Measures, Assessment Outcome Levels & Data:	• Money spent (USD) (Outcome Level 1 and 2) • Tons of trash (Outcome Level 4) • Number of participants (Outcome Level 1) • Compliance (yes/no) (Outcome Level 1)

TITLE: **Targeted Animal-Related Facility Inspections**
ID NUMBER: XXX

ACTIVITY DESCRIPTION

The Storm Water Pollution Prevention Division (Storm Water Division) is developing a focused inspection activity to target animal-related facilities within the San Dieguito River WMA. The purpose of the activity is to:

- Determine the most efficient frequency of inspections to ensure proper BMP implementation and reduce pollutant loading (e.g., once vs. twice per fiscal year)
- Determine the most efficient type of inspection to ensure proper BMP implementation and reduce pollutant loading (e.g., random inspections vs. scheduled inspections)
- Determine the most efficient combination of enforcement action to ensure proper BMP implementation and reduce pollutant loading (e.g., education/flyers vs. monetary fines vs. onsite direct interactions)
- Characterize activities at animal-related facilities to determine which activities cause the greatest pollutant discharges to better direct focused education/outreach and enforcement efforts
- Track and analyze inspection and enforcement actions to estimate load reductions resulting from inspections

The Storm Water Division will delineate a specific area within the San Dieguito River WMA to conduct the targeted inspections based on factors, such as monitoring data, facility clustering, and proximity to other watershed activities being conducted. Discharges cleaned up, behaviors corrected, and sources abated will also be reported. The Storm Water Division anticipates using the knowledge and experienced gained through this activity to optimize the City's jurisdictional industrial and commercial facility inspection program to meet Municipal Permit and TMDL requirements.

TMDL APPLICABILITY
- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION
Activity planning began in July 2007. The Storm Water Division anticipates selecting and hiring a consultant on board by the end of calendar year 2007 to help develop and implement the activity within FY 2008 through FY 2012.

PARTICIPATING WATERSHED COPERMITTEE(S)
- City of San Diego

OTHER PARTICIPATING ENTITIES
- N/A

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED
- Bacteria
- Nutrients

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria and nutrients as high priority water quality problems in the WMA and recommends implementing load reduction/source abatement activities to address them. Implementation of this focused inspection activity will contribute to addressing discharges, correct behaviors, and abate sources associated with bacteria and nutrients.

EXPECTED BENEFITS

This focused inspection activity will contribute to reducing discharges, characterizing activities, correcting behaviors, and abating sources associated with bacteria at animal-related facilities. Knowledge and experience gained through this activity would help the City optimize its jurisdictional industrial and commercial facility inspection program.

EFFECTIVENESS MEASUREMENTS

Management Questions:	• Do inspections increase rate of BMP implementation? • Does increased rate of BMP implementation effect load reduction? • What is the optimal frequency of inspection (point of diminishing returns)? • Are spot inspections more effective than scheduled inspections? • Does enforcement alter future behavior (implementing BMPs)? • Does education increase rate of BMP implementation? • How can an estimate of load reduction be made from inspection data?
Targeted Measurable Outcome(s)	• Achieve load reduction from optimized inspection rate • Achieve greater BMP implementation from optimized inspection rate (over time)
Assessment Method(s)	• Inspections (e.g., track number of BMPs implemented, increased number of BMPs, number of follow-up inspections) • Quantification (e.g., use frequency of BMP implementation to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on inspections, amount of money spent on educational materials) • Reporting (e.g., estimates of load reduction for BMPs from 3rd party data)
Assessment Measures, Assessment Outcome Levels & Data:	• Number of inspections (spot and scheduled) (Outcome Level 1) • Number of BMPs implemented (Outcome Level 1) • Change (%) in BMP implementation pre and post-education (Outcome Level 3) • Number of missing BMPs (Outcome Level 1) • Number of follow-up inspections (Outcome Level 1) • Number of enforcement follow-ups (Outcome Level 1) • Number of educational information items passed out (Outcome Level 1) • How much money spent on inspections (follow ups, initial inspections, enforcement actions)? (Outcome Level 1) • Literature review or other information to provide data to estimate load reductions (Outcome Level 3) • Dataset of load contributions for specific activities (Outcome Level 4)

TITLE: **Targeted Landscaping-Related Facility Inspections**
ID NUMBER: XXX

ACTIVITY DESCRIPTION

The Storm Water Pollution Prevention Division (Storm Water Division) is developing a focused inspection activity to target landscaping-related facilities within the San Dieguito River WMA. The purpose of the activity is to:

- Determine the most efficient frequency of inspections to ensure proper BMP implementation and reduce pollutant loading (e.g., once vs. twice per fiscal year)
- Determine the most efficient type of inspection to ensure proper BMP implementation and reduce pollutant loading (e.g., random inspections vs. scheduled inspections)
- Determine the most efficient combination of enforcement action to ensure proper BMP implementation and reduce pollutant loading (e.g., education/flyers vs. monetary fines vs. onsite direct interactions)
- Characterize activities at landscaping-related facilities to determine which activities cause the greatest pollutant discharges to better direct focused education/outreach and enforcement efforts
- Track and analyze inspection and enforcement actions to estimate load reductions resulting from inspections

The Storm Water Division will delineate a specific area within the San Dieguito River WMA to conduct the targeted inspections based on factors, such as monitoring data, facility clustering, and proximity to other watershed activities being conducted. Discharges cleaned up, behaviors corrected, and sources abated will also be reported. The Storm Water Division anticipates using the knowledge and experienced gained through this activity to optimize the City's jurisdictional industrial and commercial facility inspection program to meet Municipal Permit and TMDL requirements.

TMDL APPLICABILITY
- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION
Activity planning began in July 2007. The Storm Water Division anticipates selecting and hiring a consultant on board by the end of calendar year 2007 to help develop and implement the activity within FY 2008 through FY 2009.

PARTICIPATING WATERSHED COPERMITTEE(S)
- City of San Diego

OTHER PARTICIPATING ENTITIES
- N/A

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED
- Bacteria
- Nutrients

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria and nutrients as high priority water quality problems in the WMA and recommends implementing load reduction/source abatement activities to address them. Implementation of this focused inspection activity will contribute to addressing discharges, correct behaviors, and abate sources associated with bacteria and nutrients.

EXPECTED BENEFITS

This focused inspection activity will contribute to reducing discharges, characterizing activities, correcting behaviors, and abating sources associated with bacteria at landscaping-related facilities. Knowledge and experience gained through this activity would help the City optimize its jurisdictional industrial and commercial facility inspection program.

EFFECTIVENESS MEASUREMENTS

Management Questions:	• Do inspections increase rate of BMP implementation? • Does increased rate of BMP implementation effect load reduction? • What is the optimal frequency of inspection (point of diminishing returns)? • Are spot inspections more effective than scheduled inspections? • Does enforcement alter future behavior (implementing BMPs)? • Does education increase rate of BMP implementation? • How can an estimate of load reduction be made from inspection data?
Targeted Measurable Outcome(s)	• Achieve load reduction from optimized inspection rate • Achieve greater BMP implementation from optimized inspection rate (over time)
Assessment Method(s)	• Inspections (e.g., track number of BMPs implemented, increased number of BMPs, number of follow-up inspections) • Quantification (e.g., use frequency of BMP implementation to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on inspections, amount of money spent on educational materials) • Reporting (e.g., estimates of load reduction for BMPs from 3rd party data)
Assessment Measures, Assessment Outcome Levels & Data:	• Number of inspections (spot and scheduled) (Outcome Level 1) • Number of BMPs implemented (Outcome Level 1) • Change (%) in BMP implementation pre and post-education (Outcome Level 3) • Number of missing BMPs (Outcome Level 1) • Number of follow-up inspections (Outcome Level 1) • Number of enforcement follow-ups (Outcome Level 1) • Number of educational information items passed out (Outcome Level 1) • How much money spent on inspections (follow ups, initial inspections, enforcement actions)? (Outcome Level 1) • Literature review or other information to provide data to estimate load reductions (Outcome Level 3) • Dataset of load contributions for specific activities (Outcome Level 4)

TITLE: **Targeted Municipal Facility Inspections**
ID NUMBER: <mark>XXX</mark>

ACTIVITY DESCRIPTION

The Storm Water Pollution Prevention Division (Storm Water Division) is developing a focused inspection activity to target municipal facilities within the San Dieguito River WMA. The purpose of the activity is to:

- Determine the most efficient frequency of inspections to ensure proper BMP implementation and reduce pollutant loading (e.g., once vs. twice per fiscal year)
- Determine the most efficient type of inspection to ensure proper BMP implementation and reduce pollutant loading (e.g., random inspections vs. scheduled inspections)
- Determine the most efficient combination of enforcement action to ensure proper BMP implementation and reduce pollutant loading (e.g., education/flyers vs. monetary fines vs. onsite direct interactions)
- Characterize activities at municipal facilities to determine which activities cause the greatest pollutant discharges to better direct focused education/outreach and enforcement efforts
- Track and analyze inspection and enforcement actions to estimate load reductions resulting from inspections

The Storm Water Division will delineate a specific area within the San Dieguito River WMA to conduct the targeted inspections based on factors, such as monitoring data, facility clustering, and proximity to other watershed activities being conducted. Discharges cleaned up, behaviors corrected, and sources abated will also be reported. The Storm Water Division anticipates using the knowledge and experienced gained through this activity to optimize the City's municipal facility inspection program to meet Municipal Permit and TMDL requirements.

TMDL APPLICABILITY
- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION
Activity planning began in July 2007. The Storm Water Division anticipates selecting and hiring a consultant on board by the end of calendar year 2007 to help develop and implement the activity within FY 2008 through FY 2009.

PARTICIPATING WATERSHED COPERMITTEE(S)
- City of San Diego

OTHER PARTICIPATING ENTITIES
- N/A

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED
- Bacteria
- Dissolved Minerals
- Gross Pollutants

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria, dissolved minerals, and gross pollutants as high priority water quality problem in the WMA and recommends implementing load reduction/source abatement activities to address them. Implementation of this focused inspection activity will contribute to addressing discharges, correct behaviors, and abate sources associated with bacteria, dissolved minerals, and gross pollutants at municipal facilities.

EXPECTED BENEFITS

This focused inspection activity will contribute to reducing discharges, characterizing activities, correcting behaviors, and abating sources associated with bacteria at municipal facilities. Knowledge and experience gained through this activity would help the City optimize its municipal facility inspection program.

EFFECTIVENESS MEASUREMENTS

Management Questions:	- Do inspections increase rate of BMP implementation? - Does increased rate of BMP implementation effect load reduction? - What is the optimal frequency of inspection (point of diminishing returns)? - Are spot inspections more effective than scheduled inspections? - Does enforcement alter future behavior (implementing BMPs)? - Does education increase rate of BMP implementation? - How can an estimate of load reduction be made from inspection data?
Targeted Measurable Outcome(s)	- Achieve load reduction from optimized inspection rate - Achieve greater BMP implementation from optimized inspection rate (over time)
Assessment Method(s)	- Inspections (e.g., track number of BMPs implemented, increased number of BMPs, number of follow-up inspections) - Quantification (e.g., use frequency of BMP implementation to calculate estimated load reduction) - Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) - Tabulation (e.g., amount of money spent on inspections, amount of money spent on educational materials) - Reporting (e.g., estimates of load reduction for BMPs from 3rd party data)
Assessment Measures, Assessment Outcome Levels & Data:	- Number of inspections (spot and scheduled) (Outcome Level 1) - Number of BMPs implemented (Outcome Level 1) - Change (%) in BMP implementation pre and post-education (Outcome Level 3) - Number of missing BMPs (Outcome Level 1) - Number of follow-up inspections (Outcome Level 1) - Number of enforcement follow-ups (Outcome Level 1) - Number of educational information items passed out (Outcome Level 1) - How much money spent on inspections (follow ups, initial inspections, enforcement actions)? (Outcome Level 1) - Literature review or other information to provide data to estimate load reductions (Outcome Level 3) - Dataset of load contributions for specific activities (Outcome Level 4)

TITLE: **Targeted Restaurant Facility Inspections**
ID NUMBER: XXX

ACTIVITY DESCRIPTION

The Storm Water Pollution Prevention Division (Storm Water Division) is developing a focused inspection activity to target restaurant facilities within the San Dieguito River WMA. The purpose of the activity is to:

- Determine the most efficient frequency of inspections to ensure proper BMP implementation and reduce pollutant loading (e.g., once vs. twice per fiscal year)
- Determine the most efficient type of inspection to ensure proper BMP implementation and reduce pollutant loading (e.g., random inspections vs. scheduled inspections)
- Determine the most efficient combination of enforcement action to ensure proper BMP implementation and reduce pollutant loading (e.g., education/flyers vs. monetary fines vs. onsite direct interactions)
- Characterize activities at restaurant facilities to determine which activities cause the greatest pollutant discharges to better direct focused education/outreach and enforcement efforts
- Track and analyze inspection and enforcement actions to estimate load reductions resulting from inspections

The Storm Water Division will delineate a specific area within the San Dieguito River WMA to conduct the targeted inspections based on factors, such as monitoring data, facility clustering, and proximity to other watershed activities being conducted. Discharges cleaned up, behaviors corrected, and sources abated will also be reported. The Storm Water Division anticipates using the knowledge and experienced gained through this activity to optimize the City's jurisdictional industrial and commercial facility inspection program to meet Municipal Permit and TMDL requirements.

TMDL APPLICABILITY
- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION
Activity planning began in July 2007. The Storm Water Division anticipates selecting and hiring a consultant on board by the end of calendar year 2007 to help develop and implement the activity within FY 2008 through FY 2011.

PARTICIPATING WATERSHED COPERMITTEE(S)
- City of San Diego

OTHER PARTICIPATING ENTITIES
- N/A

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED
- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria as a high priority water quality problem throughout the WMA and recommends implementing load reduction/source abatement activities to address it. Implementation of this focused inspection activity will contribute to addressing discharges, correct behaviors, and abate sources associated with bacteria.

EXPECTED BENEFITS

This focused inspection activity will contribute to reducing discharges, characterizing activities, correcting behaviors, and abating sources associated with bacteria at restaurant facilities. Knowledge and experience gained through this activity would help the City optimize its jurisdictional industrial and commercial facility inspection program.

EFFECTIVENESS MEASUREMENTS

Management Questions:	- Do inspections increase rate of BMP implementation? - Does increased rate of BMP implementation effect load reduction? - What is the optimal frequency of inspection (point of diminishing returns)? - Are spot inspections more effective than scheduled inspections? - Does enforcement alter future behavior (implementing BMPs)? - Does education increase rate of BMP implementation? - How can an estimate of load reduction be made from inspection data?
Targeted Measurable Outcome(s)	- Achieve load reduction from optimized inspection rate - Achieve greater BMP implementation from optimized inspection rate (over time)
Assessment Method(s)	- Inspections (e.g., track number of BMPs implemented, increased number of BMPs, number of follow-up inspections) - Quantification (e.g., use frequency of BMP implementation to calculate estimated load reduction) - Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) - Tabulation (e.g., amount of money spent on inspections, amount of money spent on educational materials) - Reporting (e.g., estimates of load reduction for BMPs from 3rd party data)
Assessment Measures, Assessment Outcome Levels & Data:	- Number of inspections (spot and scheduled) (Outcome Level 1) - Number of BMPs implemented (Outcome Level 1) - Change (%) in BMP implementation pre and post-education (Outcome Level 3) - Number of missing BMPs (Outcome Level 1) - Number of follow-up inspections (Outcome Level 1) - Number of enforcement follow-ups (Outcome Level 1) - Number of educational information items passed out (Outcome Level 1) - How much money spent on inspections (follow ups, initial inspections, enforcement actions)? (Outcome Level 1) - Literature review or other information to provide data to estimate load reductions (Outcome Level 3) - Dataset of load contributions for specific activities (Outcome Level 4)

TITLE: Municipal Rain Barrel Installation and Downspout Disconnects
ID NUMBER: XXX

ACTIVITY DESCRIPTION

This activity will involve the installation of rain barrels and/or the disconnection of downspouts to direct runoff from municipal facility roofs into pervious areas (such as landscaping) for infiltration. Rain barrels, downspout disconnects, and rainwater harvesting/reuse systems help to capture, store, and divert urban runoff to reduce the volume thereof, thus contributing to reduced flooding, erosion, and the contamination of surface water with sediment, fertilizer, metals, and pesticides. In addition, this activity has the added benefit of water conservation; runoff collected and diverted to landscaping would help reduce the amount of potable water needed for irrigation. Roof runoff solutions can be used both in large-scale landscapes, such as municipal buildings, community centers, schools, and commercial sites, as well as in small residential landscapes.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Project planning began in July 2007 and is anticipated to continue until the end of calendar year 2007. Procurement of rain barrels and other items and installation are anticipated to occur from November 2007 through February 2008.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Nutrients
- Dissolved Minerals

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria, nutrients, and dissolved minerals as high priority water quality problems in the WMA and recommends implementing load reduction/source abatement activities to address them. Implementation of this activity will address both high priority water quality problems by reducing runoff volume via capture, retention, and infiltration.

EXPECTED BENEFITS

Implementation of this activity will reduce pollutant loading by reducing runoff volume via capture, retention, and eventual infiltration.

In addition, implementation of this activity is in accordance with the City's *Strategic Plan for Watershed Activity Implementation* (July 2007), which calls for the piloting of rain barrels,

downspout disconnects, and rainwater harvesting/reuse systems to reduce urban runoff volume and pollution. Knowledge and experience gained through this activity will help the City document the benefits, limitations, and challenges of rain barrels and downspout disconnects as urban runoff pollution controls before implementation on a broader scale throughout its jurisdiction in meeting Municipal Permit and TMDL requirements.

EFFECTIVENESS MEASUREMENTS

Management Questions:	• What is the effectiveness/efficiency of rain barrel/rain-harvesting systems in reducing stormwater runoff volume? • What is the loading reduction of different systems? • Which system is most efficient in collecting and/or diverting rainwater? • Which system results in the largest load reductions?
Targeted Measurable Outcome(s)	• Reduction in pollutant loads due to rain barrel installation
Assessment Method(s)	• Monitoring (e.g., load reduction estimation) • Quantification (e.g., calculation of load reductions, or estimates of change) • Tabulation (e.g., number of rain barrel systems installed, amount of money spent) • Reporting (e.g., 3rd party data to estimate load reductions)
Assessment Measures, Assessment Outcome Levels & Data:	• Cost of rain barrel systems (Outcome Level 1 and 2) • Cost of maintenance/upkeep (Outcome Level 1 and 2) • Cost of implementation (Outcome Level 1 and 2) • Volume of stormwater captured/diverted (Outcome Level 4) • Concentrations of COCs in rainwater or runoff (measured in rain barrel systems) (Outcome Level 4) • Compare 3rd party data to measured data for load reduction comparisons (Outcome Level 3) • What is the percent capture of the different systems (acres drained) (Outcome Level 4)

TITLE: **Trash Segregation Device Installation**
ID NUMBER: XXX

ACTIVITY DESCRIPTION

This project will involve the installation of devices along certain right-of-ways in the San Dieguito River WMA to prevent trash and debris from entering the MS4. Runoff entering an inlet with such a device will be cleaned of large trash and debris. It is anticipated that accumulation of such pollutants at the mouth of inlets will facilitate their collection by City crews using street sweepers. The City will study the effectiveness (in terms of load reduction) and the efficiency (in terms of load reduction divided by cost) of such devices in improving discharge and water quality impaired by bacteria, both in absolute terms and relative to other potential activities.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacterial TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Project planning began in July 2007, and project design is anticipated to continue through FY 2009. Installation is anticipated to occur in FY 2010. Water quality monitoring will be conducted before and after installation to assess the effectiveness in bacteria and trash loading.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria as a high priority water quality problem in the Pueblo Watershed and recommends implementing load reduction/source abatement activities to address it. Implementation of this activity will address bacteria via the facilitation of trash and debris removal.

EXPECTED BENEFITS

Implementation of this activity will reduce bacteria loading via facilitation of trash and debris removal. Literature published by the United States Environmental Protection Agency on its website[1] states that debris may be contaminated by pathogens that have adverse effects on humans. By reducing the amount of trash and debris in the San Dieguito River WMA, bacteria loading is reduced.

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[1] http://www.epa.gov/owow/oceans/debris/

In addition, implementation of this activity is in accordance with the City's *Strategic Plan for Watershed Activity Implementation* (July 2007), which calls for the piloting of trash segregation devices to reduce bacteria loading via facilitation of trash and debris removal. In addition, knowledge and experience gained through this activity will help the City document the benefits, limitations, and challenges of trash segregation devices as an urban runoff pollution control before implementation on a broader scale throughout its jurisdiction in meeting Municipal Permit and potential TMDL requirements.

EFFECTIVENESS MEASUREMENTS

Management Questions:	• Which type of trash segregation device facilitates the most efficient removal of trash and debris? • What is the load reduction efficiency of trash segregation devices in facilitating removal of trash? • How effective are trash segregation devices at facilitating reduction of loads of trash?
Targeted Measurable Outcome(s)	• Determination of most efficient and effective trash segregation device • Reduction in trash based on amount removed from areas with devices • Receiving water quality improvement (less observed trash in receiving water downstream)
Assessment Method(s)	• Inspections (e.g., ensure the retrofit is working as designed) • Quantification (e.g., use drainage area and rainfall information to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on implementation and maintenance, amount of money spent on educational materials)
Assessment Measures, Assessment Outcome Levels & Data:	• Number of inspections (Outcome Level 1) • Change (%) in load reduction pre and post-implementation (Outcome Level 4) • How much money spent on inspections and maintenance (Outcome Level 1) • Dataset of load contributions for specific activities (Outcome Level 4)

TITLE: Irrigation Controller and Xeriscaping Incentive Program
ID NUMBER: <mark>XXX</mark>

ACTIVITY DESCRIPTION

This activity will involve launching a pilot incentive program to encourage the use of weather-based irrigation devices and xeriscaping to reduce over-irrigation and the overall need for landscaping irrigation. Specific residential and commercial areas will be targeted and monitored to assess the efficiency of the incentive program in reducing runoff volume and pollutant loads. It is also anticipated that the program will include a component to investigate the challenges to getting residents and businesses to participate in this incentive program to better focus subsequent education and outreach efforts and determine whether broad-scale implementation should be pursued.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Project planning and coordination is anticipated to begin in July 2010. Program launch is anticipated to occur in FY 2012.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter
- City of San Diego Water Department (to be invited to participate)
- San Diego County Water Authority (to be invited to participate)

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Nutrients
- Gross Pollutants
- Dissolved Minerals

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria, nutrients, gross pollutants, and dissolved minerals as high priority water quality problems in the WMA and recommends implementing load reduction/source abatement activities to address them. Implementation of this activity will address the high priority water quality problems by reducing dry weather flows resulting from over-irrigation.

EXPECTED BENEFITS

Implementation of this activity will reduce pollutant loading by reducing dry weather flows resulting from over-irrigation. Reduction of runoff means less pollutants conveyed into the storm drain system and out into receiving waters. Water conservation will also be an added benefit as program participants waste less water on irrigation.

In addition, implementation of this activity is in accordance with the City's *Strategic Plan for Watershed Activity Implementation* (July 2007), which calls for the piloting and monitoring of an irrigation runoff reduction program to combat urban pollution. Knowledge and experience gained through this activity will help the City document the benefits, limitations, and challenges of irrigation runoff reduction programs as an urban runoff pollution control before implementation on a broader scale throughout its jurisdiction in meeting Municipal Permit and TMDL requirements.

EFFECTIVENESS MEASUREMENTS

Management Questions:	• Does increased education help reduce dry weather runoff? • Do incentives and/or rebates increase the rate of low-runoff irrigation device installation? • Do neighborhoods targeted for outreach or incentives exhibit fewer incidence of dry weather runoff? • How does the incidence of dry weather runoff relate to load reduction?
Targeted Measurable Outcome(s):	• Achieve zero dry weather runoff in target neighborhoods
Assessment Method(s):	• Inspections (e.g., track number of target behaviors observed, decrease in observed behavior, number of follow-up inspections) • Quantification (e.g., use frequency of observed behavior to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on inspections, amount of money spent on educational materials) • Reporting (e.g., estimates of load reduction for BMPs from 3rd party data)
Assessment Measures, Assessment Outcome Levels & Data:	• Number of incentives or rebates distributed (Outcome Level 1) • Change (%) in target behavior pre and post-outreach (Outcome Level 3) • Number of follow-up inspections (Outcome Level 1) • How much money spent on inspections (follow ups, initial inspections)? (Outcome Level 1) • Literature review or other information to provide data to estimate load reductions (Outcome Level 3) • Dataset of load contributions for specific activities (Outcome Level 4)

TITLE: Sediment and Peak Flow Controls #1
ID NUMBER: XXX

ACTIVITY DESCRIPTION

This activity will involve the installation of BMPs to reduce runoff flow velocity and associated erosion and sedimentation. The project may consist of a treatment train composed of, for example, inlet devices to trap gross solids, followed by a storage system to collect runoff and allow for pollutant settlement and slow release, and then a device to treat bacteria. Exact locations and BMPs will be based on monitoring and geotechnical considerations, proximity to other BMPs being implemented, site availability, land use, etc. The pollutant load reduction resulting from this activity will contribute to meeting requirements under the Municipal Permit and current and anticipated TMDLs in the receiving waters of the WMA.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Project planning began in July 2007, and project design is anticipated to continue through FY 2009. Construction is anticipated to occur in FY 2010. Water quality monitoring will be conducted before and after construction to assess the effectiveness in reducing runoff velocity and pollutant loading.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Nutrients
- Gross Pollutants

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria, nutrients, and gross pollutants as high priority water quality problems in the WMA and recommends implementing load reduction/source abatement activities to address them. Implementation of this activity will address the high priority water quality problems by managing runoff volume—the transport mechanism for pollutants—and treating runoff of pollutants before discharge into receiving waters.

EXPECTED BENEFITS

Implementation of this activity will reduce pollutant loading by managing runoff volume and treating runoff of pollutants before discharge into receiving waters.

In addition, implementation of this activity is in accordance with the City's *Strategic Plan for Watershed Activity Implementation* (July 2007), which calls for the piloting of sediment and peak flow controls to reduce urban runoff pollution. Knowledge and experience gained through this activity will help the City document the benefits, limitations, and challenges of sediment and peak flow controls as urban runoff pollution controls before implementation on a broader scale throughout its jurisdiction in meeting Municipal Permit and TMDL requirements.

EFFECTIVENESS MEASUREMENTS

Management Questions:	• What is the load reduction efficiency of sediment controls?
Targeted Measurable Outcome(s)	• Reduction in TSS at outflow of constructed BMP • Detect water quality improvement in receiving waters downstream of diversion
Assessment Method(s)	• Inspections (e.g., ensure the constructed treatment BMP is working as designed) • Quantification (e.g., use drainage area information to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on implementation and maintenance, amount of money spent on educational materials)
Assessment Measures, Assessment Outcome Levels & Data:	• Number of inspections (Outcome Level 1) • Change (%) in load reduction pre and post-implementation (Outcome Level 4) • How much money spent on inspections and maintenance (Outcome Level 1) • How much money spent on implementation? (Outcome Level 1) • Receiving water quality improvement downstream (Outcome Level 6)

TITLE: Sediment and Peak Flow Controls #2
ID NUMBER: XXX

ACTIVITY DESCRIPTION

This activity will involve the installation of BMPs to reduce runoff flow velocity and associated erosion and sedimentation. The project may consist of a treatment train composed of, for example, inlet devices to trap gross solids, followed by a storage system to collect runoff and allow for pollutant settlement and slow release, and then a device to treat bacteria. Exact locations and BMPs will be based on monitoring and geotechnical considerations, proximity to other BMPs being implemented, site availability, land use, etc. The pollutant load reduction resulting from this activity will contribute to meeting requirements under the Municipal Permit and current and anticipated TMDLs in the receiving waters of the WMA.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Project planning began in July 2007, and project design is anticipated to continue through FY 2010. Construction is anticipated to occur in FY 2011. Water quality monitoring will be conducted before and after construction to assess the effectiveness in reducing runoff velocity and pollutant loading.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Nutrients
- Gross Pollutants

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria, nutrients, and gross pollutants as high priority water quality problems in the WMA and recommends implementing load reduction/source abatement activities to address them. Implementation of this activity will address the high priority water quality problems by managing runoff volume—the transport mechanism for pollutants—and treating runoff of pollutants before discharge into receiving waters.

EXPECTED BENEFITS

Implementation of this activity will reduce pollutant loading by managing runoff volume and treating runoff of pollutants before discharge into receiving waters.

In addition, implementation of this activity is in accordance with the City's *Strategic Plan for Watershed Activity Implementation* (July 2007), which calls for the piloting of sediment and peak flow controls to reduce urban runoff pollution. Knowledge and experience gained through this activity will help the City document the benefits, limitations, and challenges of sediment and peak flow controls as urban runoff pollution controls before implementation on a broader scale throughout its jurisdiction in meeting Municipal Permit and TMDL requirements.

EFFECTIVENESS MEASUREMENTS

Management Questions:	• What is the load reduction efficiency of sediment controls?
Targeted Measurable Outcome(s)	• Reduction in TSS at outflow of constructed BMP • Detect water quality improvement in receiving waters downstream of diversion
Assessment Method(s)	• Inspections (e.g., ensure the constructed treatment BMP is working as designed) • Quantification (e.g., use drainage area information to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on implementation and maintenance, amount of money spent on educational materials)
Assessment Measures, Assessment Outcome Levels & Data:	• Number of inspections (Outcome Level 1) • Change (%) in load reduction pre and post-implementation (Outcome Level 4) • How much money spent on inspections and maintenance (Outcome Level 1) • How much money spent on implementation? (Outcome Level 1) • Receiving water quality improvement downstream (Outcome Level 6)

TITLE: **Public Service Announcements: *Karma* and *Karma Second Chance***
ID NUMBER: **XXX**

ACTIVITY DESCRIPTION

The City's Storm Water Pollution Prevention Division has retained a contract with a film production company to produce two Public Service Announcements (PSAs) specifically focused on bacteria, with gross pollutants (trash) profiled as a vector. The PSAs are entitled, *Karma* and *Karma Second Chance*, and the goal of the PSAs is to educate the public about causes of pollution and to encourage positive behavioral change. These PSAs were developed in FY 2007 and FY 2008, and will be broadcast on several television and radio stations throughout the San Dieguito River WMA in FY 2008. The PSAs will be broadcast in both English and Spanish.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

The City will coordinate with a film production company to complete production in FY 2008, then will work with various broadcast media outlets to distribute and air the PSAs in FY 2008 and FY 2009.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- Various Television and Radio Stations in San Diego

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Gross Pollutants (Trash)

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria as a high priority water quality problem in the WMA. The *Karma* and *Karma Second Chance* PSAs will result in increased knowledge and awareness regarding bacteria, and trash as a vector, and result in future load reduction of trash and debris directly and of bacteria indirectly.

EXPECTED BENEFITS

The PSAs address bacteria directly by focusing on pet waste, food waste and organic matter, and indirectly by removing a bacterial source: trash. Literature published by the United States Environmental Protection Agency on its website[1] states that *pathogens* are microscopic organisms like bacteria and viruses. They come from untreated or poorly treated sewage, pet and farm animal waste, and improperly handled medical waste. Pathogens in the water in unsafe amounts result in beach closures; shellfish bed closures, fish kills, and human health problems.

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[1] http://www.epa.gov/owow/oceans/debris/

EFFECTIVENESS MEASUREMENTS

PSA effectiveness will be measured on a variety of levels, to include the number of households (television) or listeners (radio) reached by the program will be tabulated. Second, awareness, attitude data will be collected via surveys. Thirdly, once the PSA have aired, another survey will be conducted to assess changes in knowledge and/or behavior. Recipients responding to and participating in the survey will also be assessed, such as volunteers, or those who agreed to commit to the project.

TITLE: Mobile Advertising
ID NUMBER: XXX

ACTIVITY DESCRIPTION

The City's Storm Water Pollution Prevention Division has retained a contract with a mobile advertising company to advertise *Think Blue* messages on its static billboard trucks in the San Dieguito River WMA. The City intends to create advertisements that target behaviors associated with bacteria and/or gross pollutants (trash). The goal of the advertisements is to educate the public about causes of these kinds of pollution and to encourage positive behavioral change. These advertisements will be developed in FY 2008 and will be displayed throughout the San Dieguito River WMA in both English and Spanish.

TMDL APPLICABILITY

* None

TIME SCHEDULE FOR IMPLEMENTATION

The City will coordinate with its Printing Services Division in the design of the advertisements and will work with a mobile advertising company to have the advertisements created and placed on the company's static billboard trucks. The trucks will drive pre-determined routes in the San Dieguito River WMA in an effort to reach targeted, high priority areas within the WMA to increase awareness and promote behavior change.

PARTICIPATING WATERSHED COPERMITTEE(S)

* City of San Diego

OTHER PARTICIPATING ENTITIES

* None

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

* Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The Collective Watershed Strategy for the San Dieguito River WMA identifies bacteria as a high priority water quality problem in the WMA. Utilizing billboard trucks will result in increased knowledge and awareness regarding bacteria (and trash as a vector), promote behavior change, and result in future load reduction of trash and debris directly and of bacteria indirectly.

EXPECTED BENEFITS

The advertisements will address bacteria indirectly by removing a bacterial source: trash. Literature published by the United States Environmental Protection Agency on its website[1] states that debris may be contaminated by pathogens that have adverse effects on humans. By reducing the amount of trash, bacteria loads are reduced.

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[1] http://www.epa.gov/owow/oceans/debris/

EFFECTIVENESS MEASUREMENTS
PSA effectiveness will be measured via Citywide telephone surveys and focus groups comprised of residents in the San Dieguito River WMA to determine awareness, knowledge retention, and behavior change.

TITLE: **Restaurant Inspection Outreach**
ID NUMBER: XXX

ACTIVITY DESCRIPTION

The City of San Diego (City) proposes Restaurant Inspection Outreach in support of the planned inspection activity to target restaurant facilities within the San Dieguito River WMA. The purpose of the activity is to characterize activities at restaurant facilities to determine which activities cause the greatest pollutant discharges to better direct focused education/outreach efforts. The City's Storm Water Division will delineate a specific area within the San Dieguito River WMA to conduct the targeted inspections based on factors, such as monitoring data, facility clustering, and proximity to other watershed activities being conducted. Discharges cleaned up, behaviors corrected, and sources abated will also be reported.

Education and outreach methods, activities and materials will then be developed to supplement the inspections, with the goal of increasing awareness and compliance which will lead to load reductions. The City has retained several professional outreach consultants to assist, develop and initiate the public participation and education campaign. Activities will include recommendations for education and outreach strategies, which may include education, structural interventions, public participation, incentives and specific messaging.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

In Fiscal Year 2008, the City retained several outreach consultants, including at least one firm that specializes in Community Outreach. Specific outreach planning will occur in FY09, with implementation, outreach, and evaluation continuing through FY 2011.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- n/a

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Gross Pollutants (Trash)

CONSISTENCY WITH THE WATERSHED STRATEGY

The Collective Watershed Strategy identifies bacteria and trash as high priority water quality problem in the San Dieguito WMA and recommends implementing load reduction/source abatement activities to address it.

EXPECTED BENEFITS

The Restaurant Inspection Outreach will address bacteria indirectly by removing bacterial

sources observed in the WMA, which may include trash and food debris. Literature published by the United States Environmental Protection Agency on its website[1] states that p*athogens* are microscopic organisms like bacteria and viruses. They come from untreated or poorly treated sewage, pet and farm animal waste, and improperly handled medical waste. Pathogens in the water in unsafe amounts result in beach closures; shellfish bed closures, fish kills, and human health problems.

EFFECTIVENESS MEASUREMENTS

Outreach effectiveness will be measured on a variety of levels. First, the number of stakeholders, and residents being reached by the program will be tabulated. Second, awareness, attitude and behavioral data will be collected via surveys, interviews and observations. Third, once the outreach strategy has been implemented, future surveys may be conducted to assess changes in knowledge and/or behavior. Recipients responding to and participating in the survey will also be assessed, such as volunteers, or those who agreed to commit to the project. Finally, tests such as water monitoring will be conducted to asses if any load reductions are achieved.

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[1] http://www.epa.gov/owow/oceans/factsheets/fact1.html

TITLE: **Community-Based Social Marketing Outreach Pilot Project**
ID NUMBER: XXX

ACTIVITY DESCRIPTION

The City's Storm Division found that research indicated that an emerging public education field called "Community Based Social Marketing" (CBSM) has been used successfully to increase knowledge and change behaviors in environmental sustainability programs throughout the United States. CBSM is a relatively new area of environmental social science that relies heavily on the scientific method, which includes comprehensive research, pilot programs, data gathering, and assessment measures. The City plans to implement a pilot project using this approach in a community in the San Dieguito Watershed Management Area (i.e. Carmel Valley) to attempt to achieve awareness and behavioral change. The City has retained several professional research consultants to develop and initiate the CBSM Pilot Project. Research, observations, and surveys will be conducted, with outreach interventions and assessment methods to follow. Potential results will include recommendations for education and outreach strategies, which may include education, structural interventions, public participation, incentives and specific messaging.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

In Fiscal Year 2009, the City will retain and consult with several research consultants, including at least one firm that specializes in Community-Based Social Marketing. Research and planning will occur in FY09, with implementation, outreach, assessment and evaluation continuing through FY 2012.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Gross Pollutants (Trash)

CONSISTENCY WITH THE WATERSHED STRATEGY

The City's Strategic Plan identifies bacteria as a high priority water quality problem in the San Dieguito WMA and recommends implementing load reduction/source abatement activities to address it.

EXPECTED BENEFITS

The Community-Based Social Marketing (CBSM) Outreach Pilot will address bacteria indirectly by removing bacterial sources observed in the WMA, which may include trash, debris and pet

waste. Literature published by the United States Environmental Protection Agency on its website[1] states that p*athogens* are microscopic organisms like bacteria and viruses. They come from untreated or poorly treated sewage, pet and farm animal waste, and improperly handled medical waste. Pathogens in the water in unsafe amounts result in beach closures; shellfish bed closures, fish kills, and human health problems.

EFFECTIVENESS MEASUREMENTS
CBSM Pilot Project effectiveness will be measured on a variety of levels. First, the number of stakeholders, residents, and business being reached by the program will be tabulated. Second, awareness, attitude and behavioral data will be collected via surveys and observations. Third, once the outreach strategy has been implemented, another survey will be conducted to assess changes in knowledge and/or behavior. Recipients responding to and participating in the survey will also be assessed, such as volunteers, or those who agreed to commit to the project. Finally, tests such as water monitoring will be conducted to asses if any load reductions are achieved.

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[1] http://www.epa.gov/owow/oceans/factsheets/fact1.html